

Multiplying Radical Expressions

$$\sqrt{2a} \sqrt{4a} = \sqrt{8a^2} = \sqrt{2 \cdot 4 \cdot a^2} = 2a\sqrt{2}$$

Simplify.

1. $\sqrt{9} \cdot \sqrt{32}$

11. $\sqrt{2x^4} \cdot \sqrt{10x^2y^2}$

2. $3\sqrt{5} \cdot 2\sqrt{4}$

12. $4\sqrt{x^3} \cdot 3\sqrt{4x}$

3. $4\sqrt{3x} \cdot 4\sqrt{4x}$

13. $\sqrt{xy} \cdot 2\sqrt{xy}$

4. $5\sqrt{4a} \cdot 2\sqrt{6a}$

14. $x\sqrt{81} \cdot y\sqrt{36}$

5. $3\sqrt{8a} \cdot 8\sqrt{3a}$

15. $2\sqrt{9x^2} \cdot 2\sqrt{4x^2}$

6. $6\sqrt{9xy} \cdot 4\sqrt{2xy}$

16. $x\sqrt{3x} \cdot x\sqrt{2x^2}$

7. $2\sqrt{4x^3y} \cdot 3\sqrt{3a^2b^2}$

17. $3\sqrt{2x^3} \cdot 3\sqrt{3x^2y^2}$

8. $4\sqrt{9a^6b} \cdot 4\sqrt{9a^4b^4}$

18. $x\sqrt{5x^3y} \cdot x\sqrt{5x^2y}$

9. $2\sqrt{2a^6} \cdot 5\sqrt{3a^3b^5}$

19. $5\sqrt{2x^6y} \cdot 3\sqrt{3x^3y^5}$

10. $3\sqrt{4x^3y} \cdot 4\sqrt{5x^5y^7}$

20. $2\sqrt{4x^3y} \cdot y\sqrt{x^5y^7}$